



SWAPFEST INFORMATION

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.
P.O. BOX 16521
COLORADO SPRINGS, COLORADO 80935



FIRST CLASS MAIL



Ø BEAT

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EDITOR: Ron Deutsch NKOP 4305 Ridgelane Drive, Colorado Springs, Colorado 80918 (719) 593-8352.

Deadline for submission of articles or ads is the 21st of each month. Submissions may be sent to the editor or to the club mail box. Permission to reprint articles is granted provided credit is given to both the author and this publication.

ADVERTISING RATES: Full page \$48; half page \$24, quarter page \$12, business card size \$6. These are monthly rates and are billed quarterly. Send your ad requests and payments to: P.O. Box 16521, Colorado Springs, CO 80935.

The Prez Sez...

At our last meeting I was amazed at the show of hands when I asked for the guests to identify themselves, there were over a dozen new people who raised them. Guests at our club meetings are potential members, the life blood of any club. Provided they want the skills and fellowship we offer, guest are likely to join our club if two factors are met: They are encouraged and invited to do so, and are made to feel "at home" and wanted.

You all do a great job at both. I've had a number of people tell me that PPRAA has something special going and can feel it as they walk in. Keep up the good work... Next meeting make a point of meeting someone new.

This past Saturday, March 28, our club hosted the monthly meeting of (CCARC) The Colorado Council of Amateur Radio Clubs and I must admit that it's the first one I've attend. I learned quite a bit about band plans and what's new for our hobby. We were well represented by various members and Oak Stockton did a great job making the arrangements.

May 16th is not far away. That's our Ham/Computer Swapfest and it's being billed the largest one in Colorado. I believe that we have some great prizes to be raffled off this year and an excellent location. Everyone I've talked to knows where Mega-Mart is. Along with commercial exhibitors, 140 swap tables, VE testing, and a good response to tickets and tables sold, I believe that this will be our best yet.

We have a number of people who are working hard on the last minute details and we could use more. If you would like to get involved, please make your intentions known to any of the board members at the next club meeting or call me at home. By-the-way, we are going to need a lot of help setting up the Friday night before, and tearing down that afternoon after the crowds have left. I'll pass out sign-up sheets at the meeting so please consider helping out.

I hope this Ø-Beat finds you and yours well and happy.

Harv, WB6YXD

PIKES PEAK RADIO AMATEUR ASSOCIATION

SWAPFEST

LARGEST HAM/COMPUTER SWAP IN COLORADO

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COLORADO SPRINGS AMATEUR RADIO ASSOCIATION

by Frank McNally, KFOWF

NEW DRUMMER IN TOWN!

Colorado Springs: A local group of amateur radio enthusiasts have formed a new organization called the Colorado Springs Amateur Radio Association. The prime objective is to install a VHF and UHF repeater in the Colorado Springs area with the capability for cross-band operation. The new repeater will be an open repeater to all radio amateurs and will provide local area communications service where hams may meet and discuss the many subjects that interest all of us.

The formation of the new repeater group is not to provide competition for the existing mountain top repeaters, but to relieve some of the local congestion on the long range repeaters when hams are operating within the Colorado Springs area. The new repeater will offer such services as: phone or radio initiated patch, HF operation (commensurate with license class), packet, voice messaging, packet to voice message conversion and all for a low yearly membership fee.

The VHF and UHF voice repeaters, operating on 147.315 (4600 KHz offset) and 448.725 (minus 5 MHz offset) respectfully, are fully operational. Member access to the many functions of the new repeater will be controlled using a Dual Tone Multi-Frequency (DTMF) tone code. The CSARA encourage those hams that use the repeater to spread the word.

A special thanks is extended to Wayne Stephens, N0ISV, and Bill Fisher, KA0TTF, who have been instrumental in starting this new repeater group and who's call signs will be used as the new repeater identifications. If anyone has any questions or comments, or wishes to join the CSARA merry group of key clickers, please contact one of the above individuals on the local 2 meter or 70 centi-meter frequencies.

Church Bulletins

Clarity and accuracy in writing are important. Why are church bulletins sometimes singled out as goof-prone? The following, submitted by Randall, KA0TTV, may give you a clue.

"Thursday at 5 p.m. there will be a meeting of the Little Mothers Club. All wishing to become Little Mothers will please meet the Minister in his study."

from 'QRZ', the paper of the Pilot Knob ARC, Leavenworth, KS.



Mickey Mouse Operation

Yes, this looks like our Field Day, too. Mickey and Goofy get ready for operations on April 4 and 5 from five Disney parks, to commemorate the April opening of the Euro Disney Resort outside Paris, France. The Paris station will sign TM6MM; In addition, look for operations from Anaheim, California (N6MM); Orlando, Florida (WA4ABQ); Tokyo (JL1YZB); and Long Beach, California (from the Queen Mary, W6RQ). More information will appear in the QST Special Events calendar in April.

Soviet Republics

old	new
Byelorussia	Belarus
Kirghizia	Kirghizstan
Moldavia	Moldova
Tadzhikistan	Tajikistan
Turkmenia	Turkmenistan

The seven other republics, which will retain their traditional English spellings: Armenia, Azerbaijan, Georgia, Kazakhstan, Russia, Ukraine, and Uzbekistan.

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OPERATING EVENTS

April, 1992

ARRL VHF/UHF Spring Sprints. Details in March 1992, QST. Usual VHF/UHF rules apply. (7 PM - 11 PM local time except for 50 MHz)

14 April - 222 MHz
22 April - 432 MHz

May, 1992

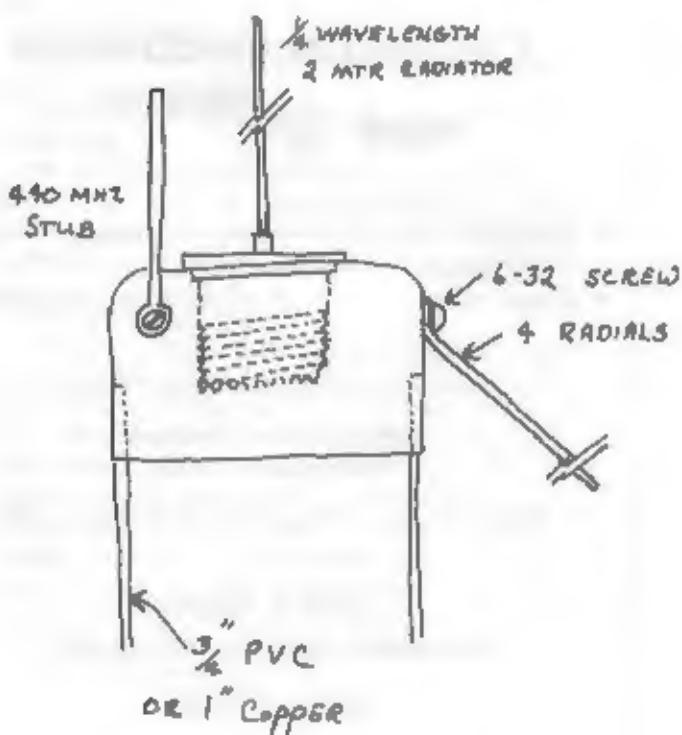
ARRL Spring Sprints

1 May - 902 MHz
7 May - 1296 MHz
14 May - 2304 MHz
23 May, 2300Z thru 24 May, 0300Z - 50 MHz
30 - 31 May, CQ World Wide WPX Contest. See February QST

June, 1992

13 - 15 June, ARRL June VHF QSO Party. Rules in the June issue of QST. This is the most popular of the VHF/UHF contests. There is a lot of activity and it provides an excellent opportunity to check out your stations capabilities.

27 - 28 June, FIELD DAY. Don't miss this one. The PPRAA will be active again this year. A great experience for everyone who participates.



DUAL BAND GROUND-PLANE

by Rick Brown, KD0SU

Why should I write about a simple antenna like the ground plane you ask? Well, I enjoy building antennas, and they are one of the few things you can still build by these days without a kilobuck of test equipment. Also, the ground plane is easy to build, cheap, and parts are readily available.

I was intrigued by an article in the January 1992 issue of CQ describing a ground plane antenna for 145/435 MHz using one feedline. No construction details were given, but all the other information seemed to make this a very straight forward antenna that would be useful and fun to build.

The Two Meter portion of the antenna is a standard ground plane antenna with a one-quarter wavelength radiator and radials. The impedance of a ground plane with the radials at 90 degrees to the radiator is 36 ohms (half the impedance of a dipole in free space). By "drooping" the radials downward you can change the feed impedance to 50 ohms, what we need for most solid state rigs. In order to make the antenna work on 440 MHz a one-quarter wave stub is added to the antenna. This stub is attached to the ground portion of the antenna and serves as a one-quarter wave transformer. It matches the 440 MHz signal to the upper two-thirds of the radiator which becomes a one-half wave radiator on that band.

One of the easiest ways to build a ground-plane antenna for VHF or UHF is to use an inverted coax connector with the radiator soldered in the center and the radials attached to the mounting flange. Since I wanted to add the 440 MHz stub, I decided on a slightly different mount. I used a panel mount N-connector from Radio Shack (P/N 278-152) mounted inside a 1 inch copper tubing end cap. A single hole mount SO-239 would work also. I made the radials from #10 house wire. Stretching the wire first helps to keep it nice and straight. The wire stood up to the latest snow and ice storm so I guess it is strong enough for most purposes. The radiator and radials should be cut to frequency for the portion of the band you want to use the most. Then change the "droop" of the radials to get the lowest SWR. One-quarter wavelength in inches equals 2808 divided by the frequency in MHz.

I attached the ground radials by drilling four equally spaced holes around the end cap and tapping them for 6-32 screws. You could also use self tapping screws here. Make a small loop for the mounting screw at the end of each radial before cutting it to length.

The 440 MHz stub should also be cut for the portion of the band you want to use, then it is mounted like the ground radials. The spacing from the radiator can be

adjusted slightly to get the best SWR on that band. On my antenna it was about three-quarters of an inch.

When you finish the antenna, run the feedline up through a mounting tube to the coax connector. Any tubing that will fit inside the end cap will work.

This antenna does not provide any gain over a dipole, but it is a solid performer. You folks who blew the budget buying a dual band rig may find it just the antenna you need to get on the air from home. If you use a dual band HT, it will certainly perform better than the "rubber duck". The same construction technique can be used for any single band if you don't need the dual band capability. As with any antenna at VHF/UHF frequencies, use the best feedline you can. Don't try to get by with RG-58! Use good quality RG-8 or 9913 cable if you can. It will make a great difference. A simple antenna like this, mounted in the clear will perform very well. It is also unobtrusive, and less likely to be considered an eyesore by the neighbors or your spouse.

RUSTIC HILLS DISPLAY

It was senior citizens day March 10 when 16 PPRAA elders sponsored and participated in an impressive amateur radio display at the Rustic Hills Mall. Rosie, WA0MNL and Russ, KB0FNM were in the thick of things as usual.

Oak, K0ROL and Ora, N0QJX were there with what appear to be their entire collection of equipment (we know it wasn't of course), and Faye, KB0QI set up a 20-meter mobile rig with one of the Isotron antennas manufactured by the Bilal Co. in nearby Flotissant. Ralph, KA0MTX, a recognized whiz at code, worked CW on Oak's 10-meter rig while Rosie and Russ handled VHF traffic.

What generated the most interest from some 100 people who stopped to watch and ask questions, was the TV equipment Oak had set up. The picture transmitted by this battery powered rig was clean as a whistle and many people enjoyed watching the monitor. A second TV set, with a VCR, was used to show tapes of PPRAA public service events and a third set showed ARRL tapes publicizing amateur radio. ORa handled packet radio, another attention getter, and this equipment too was provided by Oak.

The theme of the display was spelled out in a large banner prominently attached to one of the nine display tables. It read "YOU ARE NEVER ALONE WITH HAM RADIO". A large number of QSL cards were located on some of the tables, most were from foreign countries.

cards were located on some of the tables, most were from foreign countries.

Free messages were offered and about 12 were passed, thanks to Jake, N0CYR. Some visitors indicated an intent to become involved in ham radio, which is, of course, our ultimate goal.

Rosie was chairman of the planning committee, which met for lunch on two occasions to plan the event. She wishes to thank everyone who put so much time and effort into a very successful demonstration. In addition to those named above, the following were active participants: Al, N2IWZ; Joe, KQ0S; Connie, KA0PXE; Pete, NOLA; Andy, KB0EPN; Ivan, N0MIX; Frank, N0JEM; Charlie, W9YYO; and Wolf, W0FPQ. In addition, three others came by to lend support. They were: Carl, KA0JEA; Dennis, N7OGI; and Dave, WB0RRU.

submitted by Ivan, N0MIX

COLORADO AMATEURS PROVIDE COMMUNICATIONS FOR HOSPITAL

Amateurs came to the rescue when a Colorado hospital lost its entire telephone system on March 1. Amateur Radio Emergency Service volunteers converged on city-owned Memorial Hospital in Colorado Springs, Colorado when the facility's new computerized phone system crashed not long after installation. Responding to this unusual emergency were some 45 ARES members, who set up a communications system in the hospital, coordinated by Mike Stansberry, K0TER, emergency Coordinator for State District 14.

Memorial Hospital had just installed the new telephone system the evening of February 28, according to Don Fuhs, KE0CQ, alternate RACES officer for El Paso County and a Memorial Hospital employee who helped install the new system. A defective hard disk in the hospital computer was the culprit and all telephone service, both into and out of the facility, was lost at 7:30 a.m.

ARES members were contacted by telephone, confirmed via the local Pikes Peak repeater on 146.970 MHz, and began reporting to the hospital at 8:45 a.m. In his shack at home, Stansberry remained in contact with ARES representatives throughout the 6-1/2 hours it took to replace the computer hard disk and reprogram the computer.

A few of the on-duty physicians removed cellular telephones from their vehicles, to provide communication assistance outside the hospital. The hams, using their hand-held transceivers, provided contacts mainly between departments, and were able to make radio contact outside via three repeaters in the Colorado Springs area.

In 1990, Colorado Springs ARES members provided communications assistance following a devastating tornado that touched down in Limon, about 75 miles east of the city. (Thanks Ivan Hickman, N0MIX).

The ARRL Letter March 11, 1992

GENERAL MEETING

APRIL 8, 1992

The meeting was opened by President Harv WB6YXD at 1900 by introduction of each member and guest giving their name and call.

Treasurers report:

Previous: \$1472.22
Income: \$328.00
Expenses \$542.21
Balance \$1263.01

Minutes were approved as passed around the room, as no objections were received.

COMMITTEE REPORTS:

Publicity AL N2IWZ meeting announcement was in paper and radio and cablevision.

Education AL AD0Z Testing will be Thursday April 9th for general class at Rustic Hills.

V.E. Testing AL AD0Z V.E. will be needed for the testing April 9th, and at Swap Fest May 16th.

Interference BILL N0QJX Nothing to report, BILL WOLKD reported that his station had been found clean by FCC and neighbor still had problem with all his equipment off.

ARES MIKE KOTER Thanked those who helped in the M. S. walk past weekend. Walk America April 26th- passed out paperwork for it. Need 4 volunteers for Volks Walk May 23 at Fox Run Park (he got his volunteers). Walk for Children will be May 9th.

RACES DOUG WB0MHP Training session will be April 9th.

Sky Warn STEVE WB7VHR Training will be tonight.

Trailer no report.

CCARC OAK K0ROL Last meeting was great success here at Chapel Hills.

0-BEAT RON NKOP Date for articles for June issue is May 20th.

SWAPFEST MATT KC4KGS May 16th at MEGA-MART, 1801 N. Union. Need help for set up and tear down and during swapfest. Get your tables now from AL N0CMW OR FRANCES N0IUT Phone 473-1660.

OLD BUSINESS: NONE

NEW BUSINESS: Harv thanked Renay and Jeff Boyes for all they had done for Club as Jeff has retired from the Air Force and moving out of town. This will leave a board position open to be filled at next meeting. Rosie brought up the YLs were having a lunch on Tuesday prior to club meeting at Home Town Cafe. Please contact Faye or Connie with your donations for Botique. Malcolm KE9S announced a balloon launch by Edge Of Space on April 11th. Mike KOTER assumed position of Field Day Chairman for field day June 26, 27, 28. Hammy was awarded to Fred KA0WIE.

Brief intermission then prizes:

Ora N0QJX flashlight,
Doug WB0MHP car pad,
Barry W0MOG multiple extension,
BOB KA2CAE multiple extension,
KB0EZB tool kit,
KA9SIM headphones,
N0NJW W9PKXP N0MHQ all raffle tickets.
Next board meeting at N2IWZ QTH.

Fred KA0WIE asked for show of hands who might want to eat there prior to meeting about one dozen hands went up.

The program this evening was Severe Weather Training conducted by RAFAEL L. GALLEGOS from the Pueblo-- Colorado Springs weather station. It was very informative and well liked.

Meeting adjourned at 2100

Submitted by AL N0CMW, SEC PPRAA.

BOARD MEETING

APRIL 14, 1992

Held at the home of Al, N2IWZ. Members present:

Luci, N0OUD;
Matt, KC4KGS;
Ruse, KB0PNM;
Rosie, WA0MNL;
Ron, NKOP;
Steve, WB7VHR;
Al, N0CMW.

Board authorized purchase of a banner to be hung at Mega-Mart advertising swapfest.

Zero-Beat newsletter rated SUPERIOR by Amateur Radio News Service for 1991.

Board authorized payment to Al, N2IWZ for publicity bills.

EVERYONE, INCLUDING BOARD MEMBERS, WILL PAY \$3 ADMISSION FEE FOR SWAPFEST ENTRY. NO EXCEPTIONS!

The board would like to know if we have any members of the ELK's club that are PPRAA members.

Rosie and Ruse volunteered to head up annual club picnic this year.

The next board meeting will be 19 May 1992 at the home of Ron, NKOP.

Adjourned at 9PM.

Submitted by Al, N0CMW, Secretary, PPRAA

"The View From the Peak"

by George Hinds, N8CIX

Great for sun-worshippers! Not good for water reservoirs. It's a time when the high Rockies should be seeing much snow. Here in Teller County, Colorado we had weeks of mostly sunshine days and starlit, cold, clear nights. The kind of weather that, as a communicator for mountain search and rescue, lulls you into a false sense of security. No one gets lost and in back-country trouble in such weather?

Then, on March 4, we had our first "early warning" that nothing is as certain as change. In one storm that swept in briefly that morning, a foot of snow dumped. But no phone calls from SAR to roll out and get moving. Yet it was enough to make me check batteries for the HT's, and make sure I had necessary maps, compass, snack foods, mag mount antennas, etc., in my "Be Prepared" bag. But the sun came out; the snow began to melt.

However, the weather gurus were still telling us that a REAL winter storm was moving our way for Sunday; what we had experienced was just a taste of what was to come. A storm full of moisture from southern California, plus a deep cold front from western Canada, was to meet over Colorado on Sunday. It happened. First the constant snow, the howling wind, the never-ending radio reports of accidents.

Then the call from search and rescue: six cross-country skiers in a nearby wilderness park hit by the storm. Three walked out before nightfall and called for help; three still missing. Temperatures dropping, elevation about 9,000 feet, wind increasing, lost skiers in imminent danger; "let's go" was the call-out message in so many words.

First, report to the sheriff's office; then get the snowmobiles and the weasel on the road to the park. It didn't take a genius to see trouble ahead; even the state highway was tough to follow in the blowing snow. Once at the park gate, it worsened. The road in was almost erased by snow drifts; blizzard whiteouts came, one after the other, making us stop again and again. Setting up the comm van, establishing communications via amateur repeater, the sheriff's frequency and a cellular phone, interviewing the three skiers who had successfully walked out, briefing the search team and starting up snowmobiles and the weasel was soon accomplished. The search began, but with much concern that this would be mission ending in death unless the lost skiers came upon one of the several old, falling down cabins left from ranching days scattered about the park and took shelter. Our SAR mission coordinator chose to have the 2-person search teams head for known cabins in hopes the skiers had found refuge.

The mission took on an even more ominous outlook when the big "weasel" tracked vehicle made only a few

hundred yards before bogging down in five-foot deep snow. Then the snowmobiles, leaving the road for a trail, bogged down and became of no use. The teams took to skis and snowshoes; it was still tough going. Absolute blackness except for the snow blizzard, increasing cold, searchers sinking to their armpits in snow, it was tough. It was comforting to have our radios keep us in touch between ourselves and with the outside world. SAR field members carry ICOM commercial 16-channel radios; several are amateurs and carry ham gear, too. Fighting the storm, we were dismayed to note that the teams, unable to use vehicles, were averaging one-third of a mile an hour in forward progress!

In the communications van, the mission coordinator (NOPRU) and myself were in a world removed from civilization. From evening until about one in the morning, we were at least warm. Then the gas heater quit; the temperature inside fell and we soon were environmentally nearer to our teammates searching outside. Blowing snow no longer melted as it whistled through the not-too-tight fitting doors on the old army 4x4. At three a.m. we pulled in the almost-exhausted search teams, called a park ranger to drive a plow ahead of us so we could get out to the highway, and retreated to the sheriff's office to assess the next move.

We decided the skiers may have made it to an long-abandoned line cabin once used by cowboys on the south side of the park, so we called out a county plow to get us to the gate closest to the cabin trail. From there, it was again skis and snowshoes into the darkness. At this point, it was weighing on our minds; this might not be a successful rescue — and if not, the bodies likely wouldn't be found until the snow melted in May or June. (It wasn't getting any warmer in the comm van, either — the snow blowing in the cracks no longer was melting!). I was learning that youth has some advantages in being able to withstand weather adversity, as it was being proven all too thoroughly. At three a.m. I checked out; it took until four to make it the eight miles home. I felt cold enough that I took it as a warning sign to stop pushing myself.

After a couple hours sleep, I awoke to learn that at 6:30 that morning came the radio call from a search team, "We've got 'em, and they're Code 1!" ("Good condition"). The three skiers, a man and two women, had luckily come upon the old cabin and had the good sense to stay there. They were suffering from extreme cold and were inadequately clothed for the weather and altitude. Ironically, they were not "flatlanders" from out-of-state by Teller Co. residents who should have known better than to get into such a life-threatening predicament!

Since the storm continued, helicopter evacuation was impossible. They were not in condition to ski out. We called for a wide-track snow weasel from a neighboring county. It took about six hours from the time of

finding them to get them out of the park. It was a tough rescue, it was a tough night, but it was successful -- and that made it all worthwhile for the amateurs involved. Besides myself, there were NOPRU, NOPKA, NOPSD, NOPJZ.

Not many months ago another member of our local ham club and myself, both also members of the search and rescue team, were successful in persuading some SAR members to get their Tech licenses. We could see what a value it would be for them, the sheriff's department and the community. Now, because amateur radio is proving so helpful to the SAR team here, they are considering making an amateur radio license mandatory for team field membership.

73, George, N8CIX

MARS CROSSBAND OPERATION

On Armed Forces Day Saturday May 16, 1992 military to amateur cross band operations will take place from 1300UTC on 16 May to 0200UTC on 17 May. Military stations will transmit on selected military frequencies and listen for amateurs on selected frequencies in the amateur bands. Durations of each contact should be limited to 3 minutes.

A CW and RTTY receiving test will be conducted at 0230UTC on 17 May 1992. The broadcast will be a special Armed Forces Day message from the Secretary of Defense. The broadcast will be on the following frequencies:

7358.5 and 20941.5 (CW)
7372.5 (CW & RTTY)
6988.9 and 20995.5 (RTTY)
7309.5 (CW and RTTY)

The CW and RTTY tests must be submitted as received and no attempt should be made to correct possible errors. The time, frequency, and call sign of the military station copied as well as the name, call sign, and address of the individual submitting the entry must be indicated on the page containing the test message.

For further information on any of the above events contact Fred, KA0WIE, 591-0290.

DITS AND BITS

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Genuine IBM PC, 256K Memory, 8088 processor, Mono monitor, 360K floppy, Std keyboard. \$180.00
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2.25 KW Wards Onan Generator \$225 Call Jim
392-5613

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Complete Yaesu HF station, FT-101B/CW filter/fan, FV-101 external osc., FL-2100B KW amp, FR-101 general coverage receiver, MFJ 962C tuner, Cushcraft D3 3-band rotatable dipole--10/15/20, current balun, alliance rotor, KW dummy load, all cables and manuals, very good condition, will demonstrate, package only--\$995

Max-computer 6 channel R/C PCM Tx w/6 servos, on 54Mhz never used--\$200

Super Tigre S2500 engine never used \$200. Call Joe, WOEQ 634-7408

FOR SALE:

Complete HF station: Kenwood TS-820, CW filter, VFO-820, MC-50 mic., external speaker. All mint condition, original cartons, manuals. \$500.00

Hygain 14AVQ/WB, 10-40 M vertical. \$50.00
Dan, WD0CNQ, (719) 597-4095

FOR SALE:

Computer Desk \$50.00 Lee WA6IZI 637-9630

FOR SALE:

Heathkit SB-303 solid state SSB RX; SB-401 TX; SB-600 speaker, SB-650 frequency display; SB-610 monitor scope; SB-620 scanalyzer. All for \$330.00
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FOR SALE:

AZDEN PCS 6000H, 50 watt 2 mtr FM transceiver. Receives 118.000 to 173.995. Includes AM aircraft band. Touchtone mic included. \$275.00 Ron NKOP 593-8352

S.A.R.E.S.

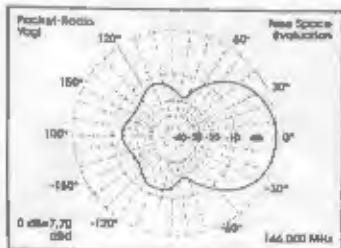
STATE AMATEUR RADIO EMERGENCY SERVICES
Dedicated to Community Support Statewide

COLORADO AND DIVISION SWEEPS

April 5, 1992	Larcfest Boulder County Fairgrounds, Longmont, Colorado Contact: John, KFØRQ, 303-776-2110
May 2, 1992	Western Slope ARC Swapfest Liff Auditorium, Mesa College Campus, Grand Junction, Co.
May 16, 1992	Pikes Peak Radio Amateur Assn Swapfest Mega Mart, 1801 North Union, Colorado Springs, Co. Contact: Al, NØCMW, 719-473-1660
May 23-24-92	Wyoming State Hamfest Casper Hilton Inn, Casper, Wyoming Contact: Rev Morton, WS7W, 307-235-2799
June 13, 1992	Superfest XIV Hamfest Larimer County Fairgrounds, Loveland, Co. Contact: John, NKØR, 303-663-7581
July 18, 1992 (this date may change)	Ski Country ARC Swapfest Colorado Mountain College, Glenwood Springs, Co. Contact: K9MWM, 303-945-8722
July 12, 1992	Denver Radio Club Hamfest & ARRL Colorado State Convention Jefferson County Fairgrounds, Golden, Colorado Contact: Keith, NØLSL, 303-680-0862
July 25-26, 1992	Mountain ARC Swapfest & Cookout Red Rocks Campground, Woodland Park, Co. Contact: George, N8CIX 303-687-2610
August 14-16, 1992	WIMU 92 & ARRL Rocky Mountain Division Convention Olympia Hotel & Convention Center, Park City, Utah Contact: Kathy Rudnicki, N7JSH, 801-547-9218
September, 1992 (probably 2nd weekend)	Hi Plains Roundup Yellow Pines Campground, Between Cheyenne & Larimie, Wyo.
September 27, 1992	Barcfest 92 Swapfest Boulder County Fairgrounds, Longmont, Co. Contact: BARC-info 303-530-2903
October 18, 1992	RMRL Swapfest (Rocky Mountain Radio League) Jefferson County Fairgrounds, Golden, Colorado Contact: Richard, WB5YOE, 303-745-2332

Any additions or corrections, please send to Bill Sheffield, KQ0J, ARRL Ass't Director, 1444 Roslyn Street, Denver, Colorado 80220 or KQ0J @ WOLJF #NEPCO.CO BBS

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